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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,716	03/22/2004	Robert Tod Dimpsey	AUS920040060US1	5962
35525 7590 07/24/2007 IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER NGUYEN, PHILLIP H	
			ART UNIT 2191	PAPER NUMBER
			MAIL DATE 07/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/808,716	Applicant(s) DIMPSEY ET AL.	
	Examiner Phillip H. Nguyen	Art Unit 2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20070330</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed on 5/8/2007. Claims 1-24 remain pending and have been considered below.

Specification

2. The amendment filed on 5/8/2007 overcomes the objection to the specification of previous action. Therefore, the objection is withdrawn.

Double Patenting

3. The amendment filed on 5/8/2007 overcomes the double patenting rejection to claims 1, 2, 4-10, 11-12, 14-22, 24 and 25 of previous action. Therefore, the rejection is withdrawn.

Claim Rejections - 35 USC § 112

4. The amendment filed on 5/8/2007 overcomes the rejection to claims 19-24 of previous action. Therefore, the rejection is withdrawn.

Response to Arguments

5. Applicant's arguments filed 5/8/2007 have been fully considered but they are not deemed persuasive.

Applicant asserts on pages 10-13 of the amendment that DeWitt fails to teach the limitations as disclosed in claims 1 and 2.

Examiner respectfully disagrees with all the allegations as argued. DeWitt teaches that the performance indicator associated with instructions being executed. DeWitt further teaches **“a spare field may be used to hold an indicator that identifies the instruction or memory location as one that is to be monitored by a performance monitor unit”** (see paragraph [0072]). Meaning, each instruction has a spare field for holding an indicator to indicate the instruction is being executed. In order to recognize that the instruction is being executed, the indicator must be unset prior to execution and set after the instruction is being executed by a processor. Those indicators remain unset if the instructions are not being executed. Another words, the signals will not send for the instruction not being executed. Whether the performance indicator is set or unset prior to execution of its associated code portion, its purpose is to indicate that the instruction is being executed.

DeWitt further teaches **“a process for identifying events associated with call and return instructions in which data is collected from a performance monitor unit. The instructions for calls and returns are ones of interest for determining when a routine has been called and when a routine completes. Performance indicators are associated with the identified call and return instructions. The program is then executed and data is collected from the performance monitor unit with the process terminating thereafter. This information may be used to generate data structures, such as trees to track or present information regarding the execution of the program”** (see paragraphs [0177-0180]). A data structure such as a tree is considered as a presentation for presenting information regarding the

execution of the program. The performance indicators must be identified in the tree in order to present the performance of the program.

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification. See MPEP 2111 [R-1] Interpretation of Claims-Broadest Reasonable Interpretation. During patent examining, the pending claims must be given the broadest reasonable interpretation consistent with the specification. Applicant always has the opportunity to amend the claims during the prosecution and broad interpretation by the examiner reduce the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541, 550-51 (CCPA 1969).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7-9, 10, 16-18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by DeWitt, JR et al. (United States Patent Application Publication No.: US 2005/0071817 A1).

As per claims 1, 10 and 19:

DeWitt discloses an method in a data processing system for presenting coverage data for code, the method comprising:

- obtaining the coverage data containing instruction access indicators associated with the code, wherein each instruction access indicator is associated with a different portion of the code, and wherein each instruction access indicator is initialize as being unset prior to execution of its associated code portion (see at least paragraph [00179] "**performance indicators are associated with the identified call and return instructions. The program is executed and data is collected from the performance monitor unit**");
- identifying instruction access indicator that have been set by a processor in the data processing system in response to execution of the code by the processor to form set instruction access indicators ("**determines that an instruction associated with an indicator is present, a signal is sent to indicate that a marked instruction is being executed**" paragraph 0075, **this means, the indicator has been set to indicate that the instruction is being executed**), wherein each set instruction access indicator is associated with an executed portion of code ("**a mark instruction is an instruction associated with a performance indicator**" paragraph 0075); and
- generating a presentation for the coverage data ("**generate a data structure, such as trees to track and present information regarding the execution of the program**" paragraph 0180), wherein each set instruction access

indicator is identified in the presentation (**information regarding the execution of the program including set instruction access indicators and unset instruction access indicators**)

As per claims 7 and 16:

DeWitt discloses the method as in claim 1 above; and further discloses:

- wherein the portion of the code is a single instruction in the code ("**an instruction in the bundle is identified**" paragraph 0089) and wherein every instruction in the code is associated with a different instruction access indicator ("**a spare field may be used to hold an indicator that identifies the instruction**" paragraph 0072, **this means, every instruction associates with a different indicator**).

As per claims 8 and 17:

DeWitt discloses the method as in claim 1 above; and further discloses:

- wherein the portion of the code is a subroutine in the code ("**subroutine 600 includes a number of instructions in which instructions 602, 604, and 606 are associated with performance indicators**" paragraph 0085).

As per claims 9 and 18:

DeWitt discloses the method as in claim 1 above; and further discloses:

- wherein the portion of the code is a branch instruction in the code ("**all branch instructions would be flagged for counting**" paragraph 0187).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5, 11, 14, 15, 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeWitt, JR et al. (United States Patent Application Publication No.: US 2005/0071817 A1).

As per claims 2, 11 and 20:

DeWitt discloses the method as in claim 1 above; and further discloses:

- identifying unset instruction access indicators that have remained unset during the execution of the code by the processor ("**determines that an instruction associated with an indicator is present, a signal is sent to indicate that a marked instruction is being executed**" paragraph 0075, **this indicates that a signal is not sent when instructions associated with indicators are not present, which also means that those indicators stay**

unset), wherein each unset instruction access indicator is associated with an unexecuted portion of the code (see at least paragraph [0072] **"Each instruction has a spare field may be used to hold an indicator that identifies the instruction or memory location as one that is to be monitored by a performance monitor unit).**

DeWitt does not explicitly disclose:

- wherein each unset instruction access indicators are identified in the presentation (**unset instruction access indicators must be in the tree in order to fully present the information regarding the execution of the program).**

However, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to identify the inset indicators in the presentation for purpose of analysis. One would have been motivated to identify the unset indicators in the presentation for fully presenting and analyzing the information regarding the performance of the program.

As per claims 5, 14 and 23:

DeWitt further discloses:

- wherein the generating step is performed in response to an event ("**the program is executed and the data is collected**" paragraph 0179).

As per claims 6, 15 and 24:

DeWitt further discloses:

- wherein the event is at least one of a completion of the execution of the code, expiration of a time, and the execution of a selected type of instruction in the code (**"the program is executed and the data is collected from the performance monitor unit with the process terminating thereafter"** paragraph 0179).

5. Claims 3, 4, 12, 13, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeWitt et al. (United States Patent Application Publication No.: US 2005/0071817 A1), in view of Lewis et al. (United States Patent Application Publication No.: US 2002/0157086 A1).

As per claims 3, 12 and 22:

DeWitt discloses the method as in claim 2 above, but does not explicitly disclose:

- wherein the set instruction access indicators are identified in the presentation using a first color and wherein the unset instruction access indicators are identified in the presentation using a second color.

However, Lewis discloses an analogous method presents a presentation, which is tree with different shapes and colors for code that executed and not yet executed (**"represents an unexecuted code segment as a diamond shaped node, an**

executing code segment as a square node, and an executed code segment as a circular node...(shape, color, shading, animation, sound,..)" paragraph 0130).

Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify DeWitt's approach to include Lewis's trees. One of ordinary skill would have been motivated to have DeWitt's trees contains different colors for different kinds of instruction access indicators to easily recognize and interpret for the viewer.

As per claims 4, 13 and 23:

DeWitt discloses the method as in claim 2 above, but does not explicitly discloses:

- wherein the set instruction access indicators are identified in the presentation using a graphical indicator and wherein the unset instruction access indicators are identified in the presentation using the graphical indicator.

However, Lewis discloses an analogous method presents a presentation including different colors and shapes indicators ("**represents an unexecuted code segment as a diamond shaped node, an executing code segment as a square node, and an executed code segment as a circular node...(shape, color, shading, animation, sound,..)"** paragraph 0130).

Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify DeWitt's approach to include Lewis's tree. One of ordinary skill in the art would have been motivated to include colors and shapes

to DeWitt's tree to indicate different kind instruction access indicator to easily recognize and interpret for the viewer.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip H. Nguyen whose telephone number is (571) 270-1070. The examiner can normally be reached on Monday - Thursday 10:00 AM - 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PN
7/11/2007



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SUPERVISORY PATENT EXAMINER